ATTACHMENT II

in a series of the constraint UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III 841 Chestnut Building Philadelphia, Pennsylvania 19107

SUBJECT:

Review of the RI/FS Work DATE: January 11, 1990 Plan and QAPIP prepared by Weston for the Standard

Chlorine Company NPL Site.

FROM:

Bernice Pasquini, Geologist (

Technical Support Section(3HW15)

TO:

Robert Guarni, RPM DE/MD Section(3HW25)

After reviewing the groundwater investigation portions of the subject documents and visiting the Standard Chlorine Company property, I recommend the following:

Groundwater flow direction west of the subject site has not been evaluated, and with the proposed placement of the Columbia monitoring wells in the RI/FS workplan, the direction of groundwater flow to the west of the site can not be evaluated and the extent of contamination can not be appropriately delineated. Therefore, it would be advantageous to place two monitoring wells to the west of the site on the Air Products Company's property. In response to our recommendation, Delaware's Department of Natural Resources and Environmental Control (DE DNREC) provided a map (see attachment 1) to EPA, during a January 2, 1990 meeting with DE DNREC, pinpointing proposed locations by Standard Chlorine Company of two wells on the Air Products Company property. At the meeting we concurred with the proposed locations and agreed that the northernmost well would replace the Work Plan proposed well number 10. Agreement was also reached that the southernmost well would be in addition to the 10 proposed wells in the August, 1989 RI/FS work plan (i.e. a total of 11 Columbia Wells will be constructed). The additional well is warranted (i.e. well number 11) as the proposed well locations for Monitoring Well number one through nine are needed in order to better delineate the extent of groundwater contamination, determine effectiveness of the recovery well system, provide additional ground water level readings, and delineate the dense non-aqueous phase liquid.

- Relocation of any of the proposed nine monitoring well locations would compromise the RI/FS's groundwater investigation objectives.
- 2. Currently there are no background wells proposed in the August, 1989 RI/FS Work Plan for placement and/or sampling. During the January 2, 1990 meeting with DE DNREC, it was stated that there should be background wells and that they should be sampled. We also discussed the shallow (Columbia) wells south of Govenors Lea Road used as Monitoring Wells by TEXACO for use as background wells for the Standard Chlorine Company site. No decision was made, but, I strongly recommend sampling three of these wells during the RI/FS (to be determined by DE DNREC and EPA). One well should be analyzed for TCL, TAL, and chlorinated benzene derivatives. The other two wells should be analyzed for benzene and its chlorinated derivatives.
- 3. Since the subject documents mention several other spills (some acid spills) and there is no record in the Work Plan or the QAPP of groundwater samples being analyzed for the TCL/TAL lists. recommended, during the January 2, 1990 meeting with DE DNREC, that additional groundwater samples be analyzed for the TCL/TAL list. DE DNREC indicated that groundwater samples at the Standard Chlorine site may have been analyzed for the TCL/TAL in the early 1980's and that they would get back to us concerning whether these analytical results existed. During a subsequent conversation with Diane Wehner of DE DNREC by telephone on January 3, 1990, Diane indicated that their Standard Chlorine Company file did not contain any TCL/TAL analytical groundwater results and consequently the groundwater was never analyzed for the TCL/TAL list. She also indicated that she spoke with Robert Touhey with the Standard Chlorine Company concerning our recommendation of additional groundwater samples being analyzed for TCL/TAL list. Mr. Touhey wanted justification for any additional samples (other than the two identified in the RI/FS Work Plan) being analyzed for the TCL/TAL list since the only products or raw materials they used in their operational
 history will be analyzed for during the RI/FS work plan (i.e. benzene and its chlorinated derivatives). Diane and I agreed that at this point and time the two on site groundwater samples to be analyzed for the TCL/TAL list would be sufficient and that both EPA and DE DNREC would choose the locations (i.e. wells from which these

two samples are to be obtained). It was also agreed that subsequent sampling for TCL/TAL of the continuent would occur contingent woon well sample results.

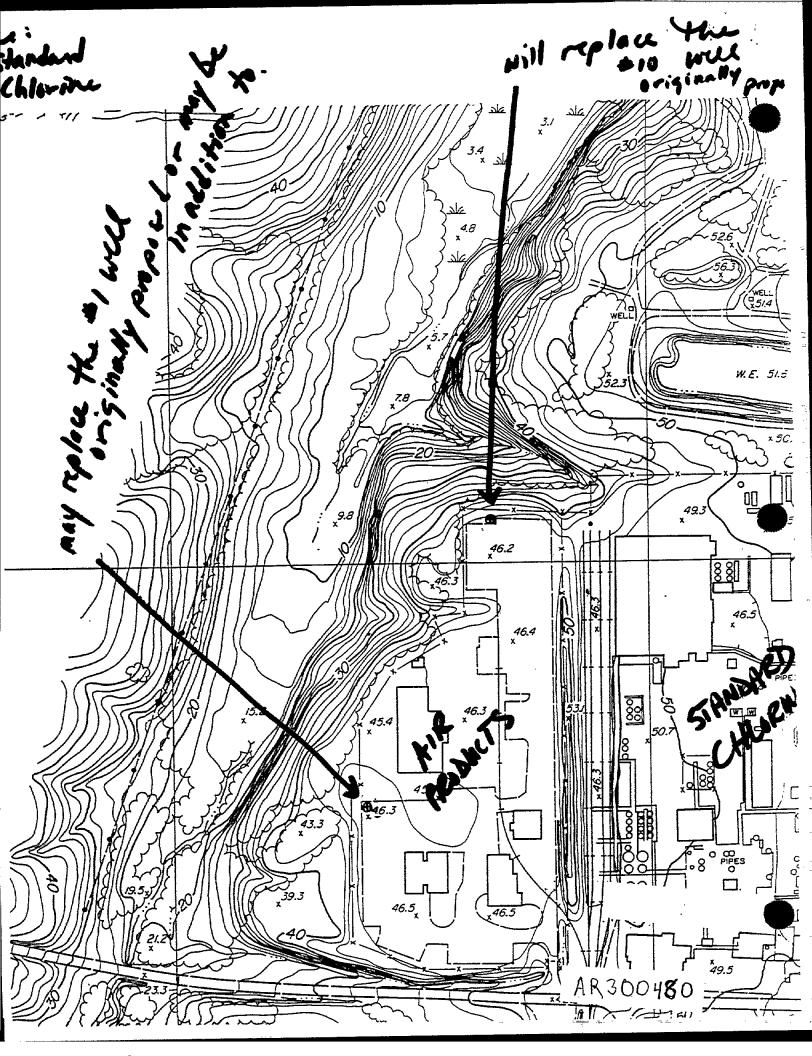
- 4. As indicated during the January 2, 1990 meeting with DE DNREC, the Hazard Ranking System (HRS) identifies use of the Columbia aquifer as a source of drinking water by individual homeowners (see attachments 2) approximately 7,000 feet to the south-southwest of the site and yet the QAPP on page 1-6 states that ... no wells are known to draw water from the Columbia Formation." Even though these wells would not be impacted by the site, we informed the DE DNREC that wells within a one to two mile radius need to be identified whether they are impacted or not for information purposes. The DE DNREC indicated that they would request that this information be included in future reports (e.g. RI/FS, exposure assessment, and risk assessment).
- During the January 2, 1990 meeting with DE DNREC an issue concerning the appropriateness of using inorganic bentonite (i.e. mud) as a drilling fluid when constructing monitoring wells was brought up. Use of mud as a drilling fluid would cause physical (i.e. hydraulic properties) and chemical change (such as increase in ph) of the aquifer and hence would not provide a representative sample of that aguifer. The DE DNREC indicated that use of potable water as the drilling fluid would introduce a large volume of water to the aquifer and consequently cause some physical and chemical parameters of the adulfer to change. To avoid problems, I recommend that the Potomac wells be partially drilled using the inorganic bentonite (i.e. mud) as the drilling fluid to approximately 20 feet, above the top of the proposed screened interval or to the depth of the bottom of the outer casing. The driller should continue. drilling the rest of the hole with potable water as the drilling fluid.

If there are any questions concerning the preceding comments, feel free to contact me at X-1268.

cc: Diane Wehner

Attachments

Attachment 1



Attachment 2

SAMPLE LOG
FIELD TRIP REPORT
DELAWARE CITY PVC PLANT
TDD NO. F3-8204-05
EPA No. DE-07

See figure
E+2
for locations

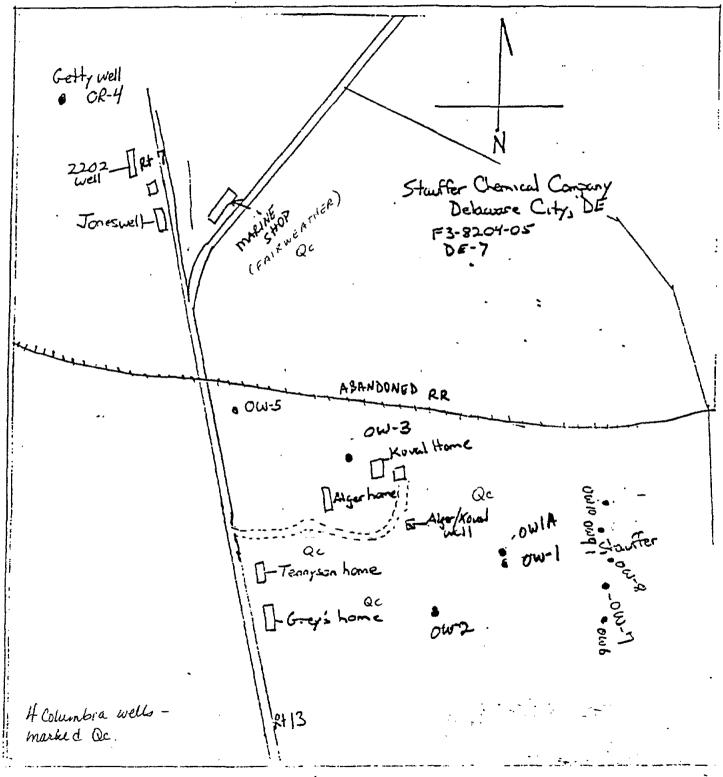
Date	Time	Location (Well Depth below grade)	Water Level (below grade)
	10.00			
4/27/82	10:00	Koval-Alger Deep Well	60 ft.	•
4/27/82	10:30	Railer Blank		
4/27/82	10:30	Koval-Alger Shallow Well	32 ft.	17 ft.
4/27/82	11:00	Tennyson's Well		~
4/27/82	-	Sample Blank		••
5/06/82	-	Sample Blank	. -	~
5/06/82	09:15	Bailer Blank	•	~
5/6/82	09:30	Observation Well - 3	68 ft.	41.21 ft.
5/06/82	10:15	Observation Well - 2	66 ft.	37.74 ft.
5/06/82	11:20	Observation Well - 1	66 ft.	- 41.21 ft.
5/06/82	10:50	Grey's Home Well	-	~
		•	- \	·
6/01/82	10:45	Observation Well - 5	60 ft.	33 ft.
6/01/82	11:07	Observation Well - 7	32 ft.	19 fc.
5/01/82	11:40	Fairweather Marine Conter	60 fr.	· ~
6/01/82	11:50	Jones' Well at 2224 Corbitt R	d. 30 ft.	-
6/01/82	12:10	2202 2224 Corbitt Rd. Well	-	,
6.01/82	:3:35	Getty Well OR-4	380 fr.	86.0 5.
		•		

SITE NAME: Delaware City PVC Plant

TDD NO .: F2-8204-05

EPA NO.:

TITLE: map of Sample Locations

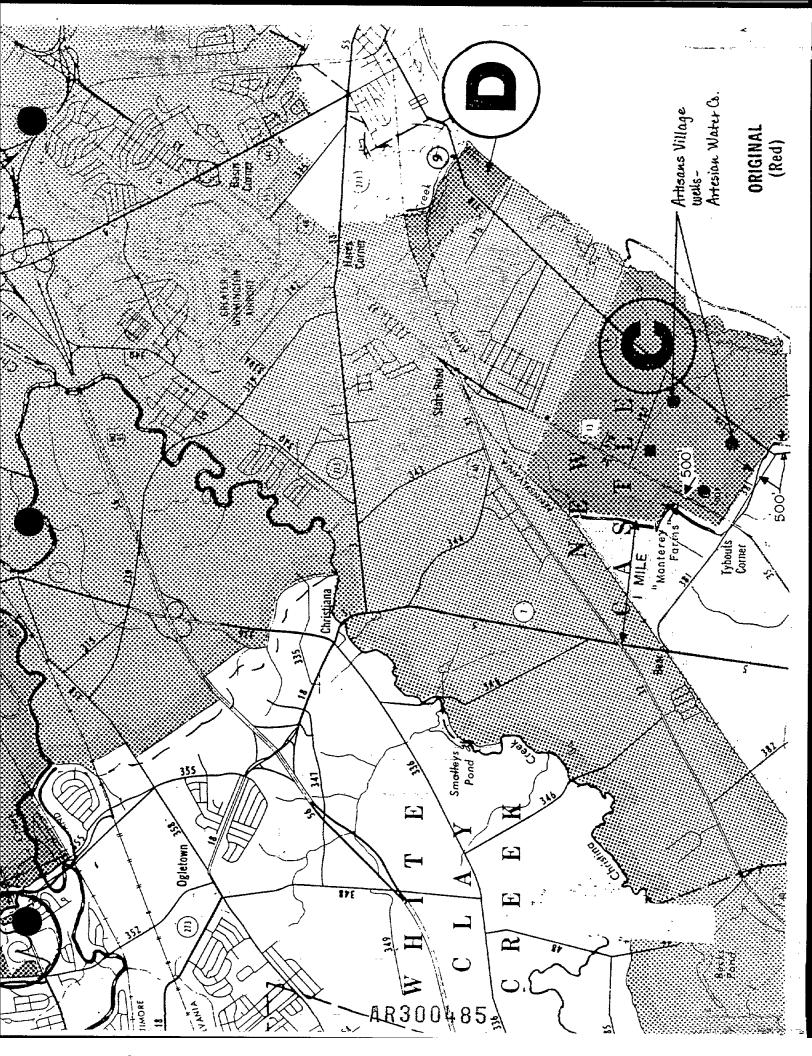


SOURCE: _ site sketch AR300483FIGURE E-2

AR300484

ORIGINAL

All In Columbia aquifer, except Spicer + Scullion hat sure Also, Shetzler may no longer riside there.



ORIGINAL (Red)

		(wed)				
RECORD OF	PHONE CALL DISCUSSION	FIELD TRIP CONFERENCE				
COMMUNICATION	OTHER (SPECIFY)					
·	(Record of item che					
Mr. Peter Golinson, Sr. V.P.	FROM:	DATE 4/3/85				
Mr. Peter Johnson, Sr. V.P. Arterian	Laura Boornayan	TIME				
	0					
Water supply wells - artis	ans Village					
SUMMARY OF COMMUNICATION						
I called to conferm wells of an	town Water Co. within 3 mile	of site.				
Well location regerred to as an	isans village. They are perm	unch for 5 was				
but only use two (the third	! not yet drilled). The or	us they use				
. are the ones clong Route 9	. It is not possible to sa	y how many				
residences are served per w	ell since there is a com	mon distribution				
hetwork.						
Well depths are 215 and 225 feet.						
They will send me druling logs.						
1984: Wells 1-2 at Artisans Village pumped 1200 gal/min (900 + 300)						
average use by cust						
	Customer is a residence.					
Transferred me to Bangalor	e-Laxman:					
Collins Park well: 357,000 gal/day (130.7 million gal/yr) 1984						
Transferred me to Bangalore Laxman: Collins Park well: 357,000 gal/day. (130.7 million gal/yr) 1984 Castle Hills: combined 3 wells: 757,000 gal/day (277 million gal/yr)						
CONCESSIONS VELICA INVESTIGATION						
Total no served by artesian 150,000 people.						
Total no served by artesian 150,000 people. Common interconnected distribution system.						
Comments from the comment of the comments of t						

EPA Form 1300-4 (7-72) REPLACES EPA HO FORM 8300-3 WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

INFORMATION COPIES

TO:

ORIGINAL (Red)

SAMPLE LOG FIELD TRIP REPORT DEL.WARE CITY PVC PLANT TDD NO. F3-8204-05 EPA No. DE-07 See figure
E+2,
for locations

	Date	. Time	Location	Well Depth (below grade)	Water Level (below grade)
			•		
	4/27/82	10:00	Koval-Alger Deep Well	60 ft.	-
	4/27/82	10:30	Railer Blank	-	, -
	4/27/82	10:30	Koval-Alger Shallow Well	32 ft.	17 ft.
	4/27/82	11:00	Tennyson's Well	- ·	· • •
•	4/27/82	· .	Sample Elank	-	-
	• • •	; ;= x		 	
-	5/06/82	-	Sample Blank	• •	
	5/06/82	09:15	Bailer Blank	• -	-
•	5/6/82	09:30	Observation Well - 3	68 ft.	41.21 ft.
	5/06/82	10:15	Observation Well - 2	66 ft.	37.74 ft.
	5/06/82	11:20	Observation Well - 1	66 ft.	- 41.21 ft.
,	5/06/82	10:50	Grey's Home Well	<u>-</u>	-
	• •			<u>, = 1, </u>	-
	6/01/82	10:45	Observation Well - 5	60 ft.	33 ft.
	6/01/82	11:07	Observation Well - 7	32 ft.	19 ft.
)	6/01/82	11:40	Fairweather Marine Conter	60 ft.	-
\	6/01/82	11:50	Jones' Well at 2224 Corbitt	Rd. 30 ft.	-
5	6/01/82	12:10	2202 2224 Corbitt Rd. Well	-	
	6,01/82	13:35	Getty Well OR-4	380 ft.	86.0 66.
			•		-



TELEPHONE: (302) 678 - 4761

NAME CHARLES B MCCAFFERY SR. HOME PHONE # 302-934-1656
ADDRESS 983 S. DO PENT ITWY. WORK PHONE #
NEW CASTLE DEL 19720
HOUSE LOCATION (road junction, distances, lot #) ROUTE 13 5 mile south
of Igloriti Corner, south bound land
NUMBER OF PEOPLE LIVING IN HOUSE 3
DO YOU OWN YES OR RENT YOUR HOUSE?
ARE YOU THE ORIGINAL OWNER? YES X NO
IF NO, WHAT IS THE ORIGINAL OWNER'S NAME?
IF YOU RENT, WHAT IS THE OWNER'S NAME?
OWNER'S ADDRESS
TYPE OF WELL: BORED DRILLED X JETTED/WASHED DUG
DRILLERS NAME: "ALTER SLAUCH LINEALN UNIVERSITY PA
APPROXIMATE DATE OF INSTALLATION: 1950
OLPIN 70'
WELL SCREEN MATERIAL: STEEL X PLASTIC CONCRETE
WOOD BRICK AR300489

HOUSE WATER PIPES: LEAU	PLASTIC	COPPER	OTHER SIEEL
OUTSIDE SPIGOT: YES X	NO		
PUMP TYPE: ELECTRIC	GAS	HAND	Tati ti
DO YOU HAVE A WATER PRESSURE TANK	K? YES <u>人</u>	NO	



TELEPHONE: (302) 678 - 4761

NAME M. EO WayTKO ADDRESS 915 Red Liou Rd. Rt#301 WORK PHONE # WEW Castle. DEL. 19720 HOUSE LOCATION (road junction, distances, lot #)	
NUMBER OF PEOPLE LIVING IN HOUSE	
DO YOU OWN OR RENT YOUR HOUSE?	
ARE YOU THE ORIGINAL OWNER? YES NO	
IF NO, WHAT IS THE ORIGINAL OWNER'S NAME?	
IF YOU RENT, WHAT IS THE OWNER'S NAME?	
OWNER'S ADDRESS	
TYPE OF WELL: BORED DRILLED JETTED/WASHED DUG	
DRILLERS NAME: From Middletown Och Meddletown On Ming Compon	i.f
\sim 10 \sim 12	F
APPROXIMATE DATE OF INSTALLATION: January of 1980	
THE SCHEEN VALUE THE STEEL X PLASTIC CONCRETE.	
MOOD BRICK A'R300491	

USE WATER PIPES: LEAD _____ PLASTIC ____ COPPER _____ OTHER____

TSIDE SPIGOT: YES _____ NO _____

MP TYPE: ELECTRIC _____ GAS _____ HAND _____

YOU HAVE A WATER PRESSURE TANK? YES _____ NO ______



TELEPHONE: (302) 678 - 4761

DNREC QUESTIONNAIRE

NAME Charles Howevers HOME PHONE # 834-2184 ADDRESS 975 S. Desport Hay WORK PHONE # Wen Cattle, Del HOUSE LOCATION (road junction, distances, lot #) 301 \$ 13
NUMBER OF PEOPLE LIVING IN HOUSE
DO YOU OWN OR RENT YOUR HOUSE?
ARE YOU THE ORIGINAL OWNER? YES NO
IF NO, WHAT IS THE ORIGINAL OWNER'S NAME? DARWES
IF YOU RENT, WHAT IS THE OWNER'S NAME?
OWNER'S ADDRESS
<u> </u>
TYPE OF WELL: BORED DRILLED JETTED/WASHED DUG
DRILLERS NAME:
APPROXIMATE DATE OF INSTALLATION:
AR300493
WELL SCRIEN MATERIAL: STEELPLASTICCONCRETE

BRICK

WOOD

HOUSE WATER PIPES: LEAD	PLASTIC	COPPER X	OTHER
OUTSIDE SPIGOT: YES 🔀	NO		
PUMP TYPE: ELECTRIC	GAS	HAND	<u>::</u> :
DO YOU HAVE A WATER PRESSURE TANI	YES ≻</td <td>NO</td> <td></td>	NO	

AR300494

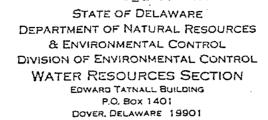
ORIGI (Red)

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF ENVIRONMENTAL CONTROL
WATER RESOURCES SECTION
EDWARD TATNALL BUILDING
P.O. BOX 1401
DOVER, DELAWARE 19901

TELEPHONE: (302) 678 - 4761

NAME Norris C. Lindsey HOME PHONE # (302)-834-167 ADDRESS 1027 Red Lien Rd. WORK PHONE # New (2stle De - 14720)
HOUSE LOCATION (road junction, distances, lot #) / m; Jouth of Rt 13 on
Rts 71-301
NUMBER OF PEOPLE LIVING IN HOUSE
DO YOU OWN Yes OR RENT YOUR HOUSE?
ARE YOU THE ORIGINAL OWNER? YES YES NO
II NO, WHAT IS THE ORIGINAL OWNER'S NAME?
IF YOU RENT, WHAT IS THE OWNER'S NAME?
OWNER'S ADDRESS
TYPE OF WELL: BORED DRILLED JETTED/WASHED DUG
DRILLERS NAME: Bill wheatley
APPROXIMATE DATE OF INSTALLATION: 19580719.59
50 Rt.
WELL SCP IL MATERIAL: STEEL PLASTIC CONCRETE
WOOD BRICK AR300495

			(Red)	
OUSE WATER PIPES: LEAD	PLASTIC	COPPER	OTHER	
UTSIDE SPIGOT: YES	NO			-
UMP TYPE: ELECTRIC	GAS	HAND	· . ———————————————————————————————————	 .
O NOU HAVE A MATER PRESSURE TAN	WA VEC 1		-	-



TELEPHONE: (302) 678 - 4761

	1194
NAME CHARLES P. REILLY	
ADDRESS 1010 RED LIVE POR-	WORK PHONE # 421-6101
NEW CASME DE 19720	
HOUSE LOCATION (road junction, distances, lot #)	ROUTE 71, APPROXIMATELY
1/5 FROM ROUTE 13	
NUMBER OF PEOPLE LIVING IN HOUSE	
DO YOU OWN OR RENT	YOUR HOUSE?
ARE YOU THE ORIGINAL OWNER? YES	10
IF NO, WHAT IS THE ORIGINAL OWNER'S NAME?	ARE + DOWNEY NEILSON
IF YOU RENT, WHAT IS THE OWNER'S NAME?	
OWNER'S ADDRESS	
TYPE OF WELL: BORED DRILLED JE	TTED/WASHED DUG
DRILLERS NAME: UNKNOWN WA	Mace D Neilson
APPROXIMATE DATE OF INSTALLATION: K145	
14 feet	
WELL SCHEEN MATERIAL: STEEL PLASTIC PLASTIC	CONCRETE DE TONGE 97

HOUSE WATER PIPES: LEAD	PLASTIC	COPPER	OTHER
OUTSIDE SPIGOT: YES	NO		
PUMP TYPE: ELECTRIC	GAS	HAND	
DO YOU HAVE A WATER PRESSURE TANI	⟨? YES ✓	NO	



TELEPHONE: (302) 678 - 4761

NAME MR. & MRS. W.C. Neilson HOME PHONE # 834-8920
ADDRESS 1016 Red Light Rd. WORK PHONE #
New Castle, Del. 19720
HOUSE LOCATION (road junction, distances, lot #) yellow ranch house ON Rte 301 life side 2nd house down from
ravel pit Entrance.
NUMBER OF PEOPLE LIVING IN HOUSE 4
DO YOU OWN OR RENTYOUR HOUSE?
ARE YOU THE ORIGINAL OWNER? YES L NO
IF NO, WHAT IS THE ORIGINAL OWNER'S NAME?
IF YOU RENT, WHAT IS THE OWNER'S NAME?
OWNER'S ADDRESS
TYPE OF WELL: BORED DRILLED JETTED/WASHED DUG
TYPE OF WELL: BORED DRILLED JETTED/WASHED DUG DRILLERS NAME:
APPROXIMATE DATE OF INSTALLATION: 1976
30 / Sept
WELL SCREET MATERIAL: STEEL PLASTIC CONCRETE
WOOD BRICK AR300499

COPPER OTHER

OUTSIDE SPIGOT: YES NO	
PUMP TYPE: ELECTRIC GAS HAND	
DO YOU HAVE A WATER PRESSURE TANK? YES NO	
Please test for these Chen	nicals;
Vinyl Chloride	
1,2-Dichloroethane	<u>-</u> -
Tetrachloroethylene	
Benzene	
Chloroethane Phenol	
Trans-1,2-Dichloroethylene	
1,1 Dichoroethane	

PLASTIC __

HOUSE WATER PIPES: LEAD ____





TELEPHONE: (302) 678 - 4761

NAME CHARLES A FRITZ	HOME PHONE # 834-1716
ADDRESS 1007 RED LION RUAD	WORK PHONE #
NEW CASTLE, DE. 19720	
HOUSE LOCATION (road junction, distances, lot #)	
ACRUSS FROM LAINDFILL - DE ROC	TE71- U.S. 301 SOUTH
NUMBER OF PEOPLE LIVING IN HOUSE	
DO YOU OWN YES OR RENT	_ YOUR HOUSE?
ARE YOU THE ORIGINAL OWNER? YES	NO
IF NO, WHAT IS THE ORIGINAL OWNER'S NAME?	
IF YOU RENT, WHAT IS THE OWNER'S NAME?	
OWNER'S ADDRESS	
TYPE OF WELL: BORED DRILLED JI	ETTED/WASHED DUG
DRILLERS NAME: REV. LACEY BRYAN	T DECEASED
APPROXIMATE DATE OF INSTALLATION: 12144	1973
ALL DEFISH 20 FT.	
WELL SCREEN MATERIAL: STEEL V PLASTIC	CONCRETE
WOOD BRICK	AR300501

(Red)

OSE MATERIALIS. ELAD PL	.H311C	CUPPER	OTHER		÷	
TSIDE SPIGOT: YES NO		e e e			÷	
MP TYPE: ELECTRIC - G	AS	HAND	and the second s	- .		
YOU HAVE A WATER PRESSURE TANK?	YES t	NO			<u></u>	_

House Water Pipes: Lead	Plastic	Copper	for Al .
Outside Spigot: Yes Pump Type: Electric Do You Have a Water Pressur	Gas	Hand	
DO YOU HAVE A SYSTEM? SF		-	Νö
septic tend 1	00 + Ff 4	j _e UK	RIGINAL (Red)

AR300502a



ORIGINAL (Red)

TELEPHONE: (302) 736-4761

DNREC QUESTIONNAIRE

NAME TAPPY F. CAUTIDED. IC. HOME PHONE # 594-1719 ADDRESS 1011 RED LICH READ WORK PHONE # 6.54-2000 MEW. CASTEE DE. 19020
HOUSE LOCATION (road junction, distances, Lot #)
RED LIEN.
Number of People Living In House
Do you Own or Rent your house?
Are you the original owner? Yes No
If No, what is the original owner's name
If you rent what is the owner's name
Owner's Address
Owner's Telephone Number
Type of Well: Bored Drilled Jetted/Washed Dug
Drillers Name:
Approximate Date of Installation: 1960
Well Depth 15-181
Well Screen Material: Steel Plastic Concrete
Wood Brick

AR300503

RECORD OF	PHONE CALL DISCUSSION	FIELO TRIP	CONFERENCE
COMMUNICATION	OTHER (SPECIFY)		· · · · · · · · · · · · · · · · · · ·
TO:	FROM:	n checked above)	
-	_	DATE 6/1	4/85
genogist	Leura Boornayan	TIME	45
Domestic wells in Columbia ag	uiper near Std. Chlo	rme site	
SUMMARY OF COMMUNICATION			
Rowy Assoc. Huntington, NY (516)673-4		kci (ex.	
They did a study for Stauffe Sounded the wells: all in	r Chemical Co in Fe Columbia Formation	b 1983.	
Alger/Koval deep well	65 feet deep.	•	
Tennyson well	44 feet		
Fairweather Marine She	v		
Grey's well	45 feet		
CONCLUSIONS, ACTION TAKEN OR REQUIRED	, —		
Attached is excerpt from prepared by Roux Assoc.	Appendix E of the S	Stauffer Repo	nt
INFORMATION COPIES	p -		<u> </u>

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